

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: **Makoto TOMIOKA et al.**

Art Unit: **2621**

Application Number: **09/893,677**

Examiner: **David J. Czekaj**

Appeal No. 2009-003655

Filed: **June 29, 2001**

Confirmation Number: **9414**

For: **RIGID VIDEO-ENDOSCOPE SYSTEM**

Attorney Docket Number: **010680**

Customer Number: **38834**

REQUEST FOR REHEARING UNDER 37 C.F.R. §41.52
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

June 1, 2010

Sir:

Appellants request reconsideration of the Decision mailed March 31, 2010 with respect to the present appeal. It is submitted that this Request is timely, since May 31, 2010 was a Federal holiday.

The Board of Patent Appeals and Interferences (BPAI) vacated its earlier Decision of August 20, 2009 in view of the Request for Rehearing filed on October 20, 2009. The BPAI now in this Decision dated March 31, 2010: 1) affirms the Examiner's rejections of claims 1-18 under 35 U.S.C. §103(a) as being unpatentable over Igarashi (USP '232) in view of Takahashi (USP '948); and 2) enters a new ground of rejection claim 1 as being rejected under 35 U.S.C.

103(a) for obviousness over Takahashi (USP '948) considered with or without Igarashi (USP '232).

1. The Rejection based on Igarashi (USP '232) in view of Takahashi (USP '948)

In this Decision, the BPAI asserts that "[t]he principal issue raised by Appellants' arguments is whether Takahashi discloses or suggests providing a part of a relay optical system in the camera head and the remaining part of the relay optical system in the inserting section."

The BPAI then relies on the stereoscopic rigid-type endoscope shown in Fig. 2 of Takahashi for teaching the feature of claim 1 regarding *a part of a relay optical system in the camera head and the remaining part of the relay optical system in the inserting section*. More specifically, the BPAI asserts:

In Figure 2, the last of the seven lenses included in bracket 6, which designates the relay lens section, is located inside operating/holding section 3, which additionally includes a rotating section 12 that houses a prism 8, image forming lenses 9a, and 9b, and CCDs 1 la and 1 lb. *Id.* at col. 4, ll. 51-55. Therefore, Appellants' argument that "Takahashi does not teach a camera head that includes a part of the relay optical system, since the relay lens section 6 and relay lens system 7 are instead included in the inserting section 2 of the stereoscopic rigid-type endoscope 1" (Br. 7) appears to be incorrect with respect to the Figure 2 embodiment.

In addition, the BPAI cites to the Oral Hearing held August 12, 2009 during which the Appellants acknowledged that in Fig. 2 of Takahashi it appeared that that the last of the seven lenses included in bracket 6, which designates the relay lens section, is located inside operating/holding section 3.

However, the BPAI completely ignores Appellants other argument with regard to the disclosure of Fig. 2 of Takahashi, namely, that even if the last lens included in bracket 6 (relay lens section) is located inside operating/holding section 3, Takahashi still fails to disclose or fairly suggest the feature of claim 1 regarding *the relayed image is formed between the relay optical system and the imaging optical system in the camera head*. (Reply Brief page 8).

It is submitted that this is exactly what was argued during the Oral Hearing, specifically, from page 2, line 10 through page 3, line 25 of the transcript of the Oral Hearing addressed this issue, which are as follows:

JUDGE MARTIN: Even though the Examiner seems to pretty much consistently rely on Figure 1 for the limitation of having part of the relay system in the camera head, he does also mention Figure 2 in stating the rejection. It wasn't clear to me from the remarks in the Brief whether they were taking into account Figure 2 or whether they were just addressing Figure 1, which is where the Examiner places most of his emphasis.

MR. BROWN: Yeah. We addressed Figure 1 since that seemed to be the Examiner's primary reliance. Figure 2, Takahashi, I guess the relay lens, section six, I think is probably what you're referring to. JUDGE MARTIN: Right. It does have a piece that looks like it's surrounded by what's called the operating/holding section three.

MR. BROWN: Right. I mean, that is what it appears to show. There's really no discussion of Figure 2 in the reference. So, just based on what's shown in this figure, I'd have to say, **even if that is the case, if that is part of the relay optical system, the claim calls for an image to be formed within the camera head between the relay optical system and the image optical system in the camera head. That image shown in Figure 2, A, is not shown, not included within the camera head and, B, is within the relay optical system and is not shown between a relay optical system and an imaging optical system in the camera head.** (Emphasis added).

JUDGE MARTIN: Let me pursue that a moment. Okay. We don't have an image arrow shown inside this operating holding section in figure two. So, I guess maybe we're supposed to assume that the only image inside that section is the one that's on the CCD. I don't know. Is there implicitly an image somewhere in there other than the one on the CCD? You've got the light coming out of the relay lens. Does the relay lens always provide an output image the same as passed on by the image-forming lens? We do have image-forming lenses; right?

MR. BROWN: Right. Doesn't the reference in Figure 2 divide the image?

JUDGE MARTIN: It divides it. Right. The way the light paths are shown there, it looks like you've got parallel light coming out -- that last relay lens element.

MR. BROWN: Right. So, I would say no. They'd have to all come together to form the image. That's shown in three segments in Figure 2, right after the beginning of the object, optical system, in the middle of the relay optical system and towards the end. The three is showing light beams that are actually -- they coincide to form the image. **So, I would say no, there's no image formed in the actual operating/holding section, three, in Figure 2.** (Emphasis added).

In view of the above, it is respectfully submitted that the BPAI's affirmance of the Examiner's rejection based on the disclosure in Fig. 2 of Takahashi is lacking, since even if that even if the last lens included in bracket 6 (relay lens section) is located inside operating/holding section 3, Takahashi still fails to disclose or fairly suggest the feature of claim 1 regarding *the relayed image is formed between the relay optical system and the imaging optical system in the camera head.*

As shown in the attached Fig. 2 of Takahashi '948, a first image I1 of the object is formed by the objective, the first image I1 is relayed by the relay-lens portion two times, and the final relayed image is I3. Since there are no further images between the I3 and CCDs, 11a and 11b, it is clear that it is simply impossible for Takahashi to disclose or fairly suggest the feature of claim 1 regarding *the relayed image is formed between the relay optical system and the imaging optical system in the camera head*. Moreover, since the final image I3 is imaged on CCD 11a and 11b, in figure 2, lens L, lens 9a and lens 9b serve as the imaging lens. Therefore, as a functional point of view the lens L is not part of a relay lens as understood by a person having ordinary skill in this technical art. Instead, lens L is understood to be part of the imaging optical system.

2. New Ground of Rejection-claim 1 over Takahashi ('948) with/without Igarashi ('232).

The BPAI concludes that it would have been obvious to implement the rotatable connection between insertion section 2a and insertion section 2b in the Figure 14 embodiment as a detachable connection for either of two reasons.

The first reason is that such detachability would have been recognized as advantageous in that it would permit replacement of either inserting section 2a or the combination of inserting section 2b and operating/holding section 3 in the event of failure of one of those components. See *Perfect Web Tech., Znc. v. ZinfoUSA, Znc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009) ("[While an analysis of obviousness always depends on evidence that supports the required *Graham* [v. *John Deere Co.*, 383 U.S. (1966)] factual findings, it also may include recourse to logic, judgment, and common sense available to the person of ordinary skill that do not necessarily require explication in any reference or expert opinion.]). As evidenced by the absence of any

construction details in their Application, Appellants considered construction of a detachable and rotatable connection between the insertion sections to be within the level of ordinary skill in the art.

An alternative reason (based on Igarashi '232) for making Takahashi's inserting sections 2a and 2b detachable from each other is to permit replacement of inserting section 2a after it has been contaminated. Use of Takahashi's Figure 14 embodiment involves manual rotation of inserting section 2a relative to inserting section 2b and operating/holding section 3. *See* Takahashi, col. 9, ll. 54-59 ("In accordance with this [Figure 21 embodiment, the operator can hold the operating/holding section 3, connected with the rear section 2b of the inserting section 2 and containing the image sensing system, rotating the front section 2a of the inserting section while keeping the operating/holding section 3 stationary with respect to the gravitational dimension.") (emphasis omitted). While this description does not clearly indicate whether inserting section 2b of operating/holding section 3 is or is not inserted in the patient after manual rotation of inserting section 2a relative to inserting section 2b, we conclude that it would have been obvious to use this embodiment without causing inserting section 2b to be inserted into the patient, especially in view of Igarashi '232's disclosure of making the inserting section, which is subject to contamination, detachable from the other components. *See* Igarashi '232, col. 8, ll. 61-64 ("Since the insert section 1 of the non-flexible endoscope shown in FIG. 2 or FIG. 3 can be detached from the eyepiece section 2 or the TV camera adaptor 3, the insert section 1 can be discarded after it is practically used and contaminated.") (emphasis omitted). As shown in Figure 4, reproduced below, Igarashi '232 further discloses using a sterilizing cover 8 to protect the parts of the endoscope that will not be inserted into the patient. Figure 4 shows a sectional view illustrating a configuration of the non-flexible endoscope shown in Figure 3 provided with a sterilizing cover (id. at col. 4, ll. 60-62; col. 9, ll. 1-20).

However, Appellants note that neither Takahashi ('948) nor Igarashi ('232) teach or suggest detaching an front-end insertion section from a camera head within a relay optical system. That is, the non-flexible endoscope shown in Fig. 4 of Igarashi ('232) does not even include a relay lens system, (col. 8, lines 52-55), and in the stereoscopic rigid-type endoscopes shown in Figs. 19(a) and 19(b) of Takahashi ('948) the relay optical systems 44a and 44b are included in the inserting section 46 and only the cover member 47a and the holding section body 47b of the operating/holding section 47 are detachable from one another.

Accordingly, the BPAI comments regarding “common sense available to the person of ordinary skill that do not necessarily require explication in any reference or expert opinion” appears to be unsupported speculation and just a disguise for relying on the disclosure of the present specification, which constitutes impressible hindsight.

In addition, as noted above, the BPAI asserts, “[as evidenced by the absence of any construction details in their Application, Appellants considered construction of a detachable and rotatable connection between the insertion sections to be within the level of ordinary skill in the art.” Here again, the BPAI’s position seems to lacking, since the present specification indicates in paragraph [0051] that **“the third relay lens 2-3 is formed substantially as a telecentric optical system to provide a parallelized light beam at a connection portion of the front-end insertion section and the camera head.”**

That is, forming the third relay lens 2-3 substantially as a telecentric optical system to provide a parallelized light beam at a connection portion of the front-end insertion section and the camera head would certainly qualify as evidence of construction details. Additionally, it is submitted that the present specification is replete with other construction details.

In view of the comment above, Appellants respectfully submit that all of the outstanding obviousness rejections should be reversed.

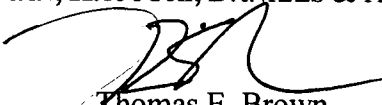
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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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TEB/nrp

Attachment: Marked-up version of Fig. 2 of Takahashi (USP 5,588,948)

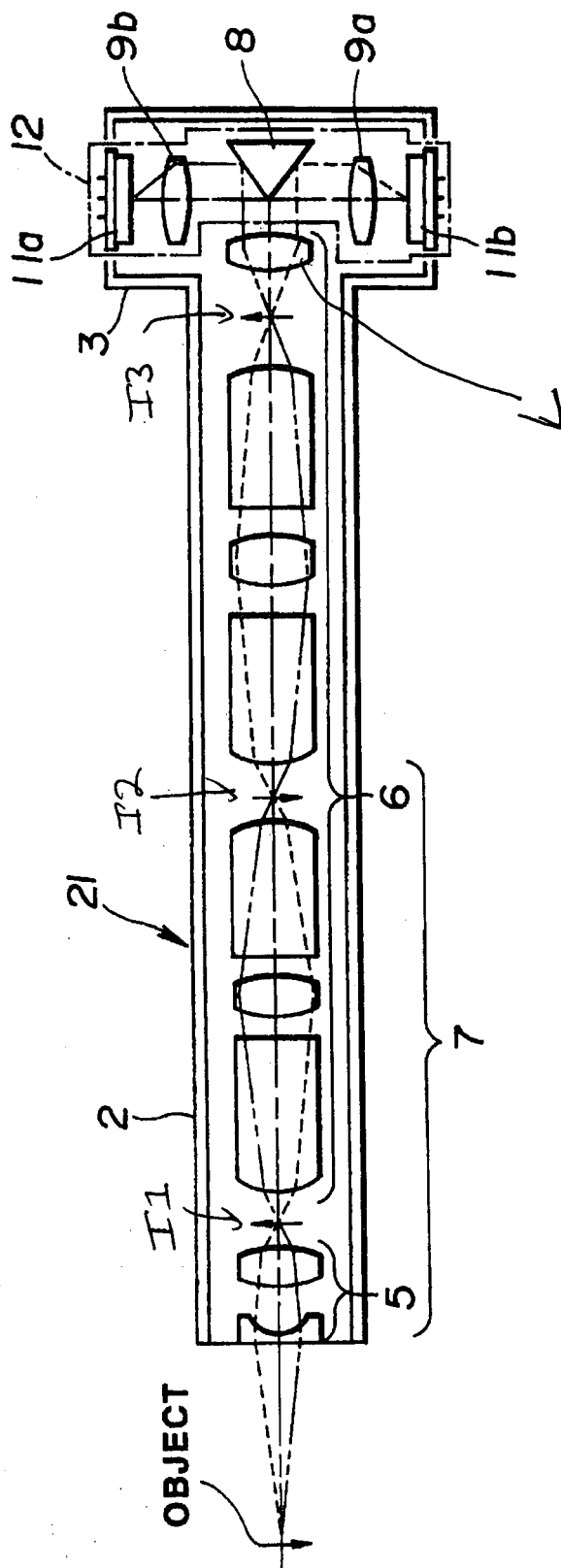


FIG.2